

M. E. Y. EQUIPMENT

MOWER MANUAL

200 COLLIER ROAD, BAYSWATER. WESTERN AUSTRALIA 6053

TELEPHONE (08) 9370 1110, FACSIMILE (08) 9370 2566

Web Site: www.mey.com.au Email: info@mey.com.au

INTRODUCTION

The technical data and service recommendations referred to in this maintenance manual relates to M. E. Y. Equipment mowers.

Although the operator can carry out most repairs - should difficulty be experienced, it is recommended that a suitable workshop or the manufacturer service it.

A comprehensive range of genuine spares is available directly from the manufacturer, the distributors and selected dealers.

SAFE OPERATION PRACTICES

TRAINING

- Read the instructions carefully.
- Be familiar with the controls and the proper use of the equipment;
- Never allow children or people unfamiliar with these instructions to use the lawnmower.
- Never mow while people, especially children, or pets are nearby;
- Remember that the operator is responsible for accidents to other people or their property.

PREPARATION

- While mowing, always wear substantial footwear and long trousers.
- Do not operate the equipment when barefoot or wearing open sandals;
- Thoroughly inspect the area where the equipment is to be used and remove all objects which can be thrown by the machine;
- **WARNING** – Petrol is highly flammable.
 - store fuel in containers specifically designed for this purpose;
 - refuel outdoors only and do not smoke while refueling;
 - add fuel before starting the engine. Never remove the cap of the fuel tank or add petrol while the engine is running or when the engine is hot;
 - if petrol is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapours have dissipated;
 - replace all fuel tanks and container caps securely;
- Replace faulty silencers;
- Before using, check that bolts are secure and the cutter assembly is not worn or damaged.
- On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.

OPERATION SAFETY INSTRUCTIONS

- Do not operate the engine in a confined space where dangerous fumes can collect;
- Mow only in daylight or in good artificial light;
- Walk, never run and always be sure of your footing on slopes;
- Mow across the face of slopes, in preference to up and down;

- Exercise extreme caution when changing direction on slopes;
- Do not mow excessively steep slopes;
- Use extreme caution when reversing or pulling the lawnmower towards you;
- Stop the cutting cylinder when emptying the catcher & crossing surfaces other than grass;
- Never operate the lawnmower with defective guards or without the safety devices;
- Do not change the engine governor settings or overspeed the engine;
- Disengage all blade and drive clutches before starting the engine;
- Start the engine according to instructions and with feet well away from the blade(s);
- When starting the engine ensure that the mower is on level ground. (The oil alert switch will stop the motor when the mower is inclined more than 30° to prevent damage to the engine;)
- Do not start the engine when standing in front of the cutting reel;
- Do not put hands or feet near rotating parts. Keep clear of the cutting reel at all times;
- Never pick up or carry a lawnmower while the engine is running;
- Stop the engine and disconnect the spark plug wire before clearing blockages or unclogging cutting reel and before checking, cleaning or working on the lawnmower;
- After striking a foreign object. Inspect the lawnmower for damage and make repairs before restarting and operating the lawnmower;
- Stop and inspect the mower if it vibrates abnormally;
- Stop the engine whenever you leave the lawnmower and before refueling;

MAINTENANCE AND STORAGE

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition;
- Never store the equipment with petrol in the tank inside a building where fumes can reach an open flame or spark;
- Allow the engine to cool before storing in any enclosure;
- To reduce the fire hazard, keep the engine, silencer and petrol storage area free of grass, leaves, or excessive grease;
- Check the grass catcher frequently for wear or deterioration;
- Replace worn or damaged parts for safety;
- If the fuel tank has to be drained, this should be done outdoors.

					
A	B	C	D	E	F
A: Safety Warning			D: Stand clear of machine		
B: Read the manual			E: Wear eye and ear protection		
C: Beware of thrown debris			F: Keep your hands away from moving parts		

GENERAL RECOMMENDATIONS

- The mower / motor should not be reclined more than 45° when adjusting the blade setting, servicing the machine or loading it onto trailers or other transport. This is to prevent sump oil entering the combustion chambers. Ideally, the mower handles should be rested on the catcher or 20 Litre drum and the engine set at 'top dead centre' for service work.
- When using a ramp to load the mower for transportation, avoid exposed nuts or steel fastenings that may damage the bottom blade or cause the rear roller to skid out of control. Particular care needs to be exercised when loading mowers with split rear rollers as they tend to slip unpredictably on single boards.
- When cleaning the mower, avoid using pressure hoses of air or water, as these may force grit or water into the bearings. Hosing split rear rollers will remove essential lubricants.
- Always disengage the cylinder when not cutting grass. Even short periods, such as emptying the catcher, can scorch the grass from the heat generated between the blades.
- Care should be taken when mowing down steep inclines with mowers fitted with split rear rollers of the ratchet type. They tend to freewheel under these conditions.
- The cutting cylinder clutch lever should only be operated when the mower is on the grassed area and you are ready to cut the grass.
- When turning the mower, holding back the mower handle on the inside edge of the turn facilitates the manoeuvre, more than trying to propel the outside edge of the mower handle.

SETTING UP MOWER

To obtain a parallel cut and prevent lines occurring, setting up the mower correctly is most important and the following procedure is recommended.

Check that front roller cam height adjusters are both in the 'high' cut position. Turn off the petrol and turn the engine to Top Dead Centre. Lay back the mower on 20 Litre drum or catcher. Place a straight edge between the back and front rollers on the chain case side.

Measure from cutting edge of the bottom blade to the straight edge and adjust the front roller to the desired cutting height. Secure the chaincase side front roller bolts.

Align, by eye, the front roller to top of the cutting blade & secure the non-chaincase side front roller bolts. The front roller will now be parallel to the cutting blade.

Rub white chalk on the bottom of back roller so that the back roller can be aligned by eye with the underside of the front roller.

Adjust the back roller as required by rotating the cam adjuster to raise or lower the non-chaincase end of the rear roller. The back roller will then be parallel to the front roller that is in turn parallel to the cutting blade. This can be checked with the straight edge.

OPERATING INSTRUCTIONS

Before you start the mower:

1. Check the engine oil. Ensure that the mower is stationary and on level ground. Remove the grey filler cap at the front of the engine and check the oil level using the dipstick. Low levels will result in serious engine damage and overfilling can result in loss of power or smoking.
2. Check the fuel level. Use unleaded fuel only. Never use two-stroke mixture or lead replacement petrol.
3. Avoid getting dirt, dust, clippings and water into the fuel tank. It is recommended that the top of the tank be wiped clean before removing the fuel cap.
4. Check the Air Filter. Clean both the foam and inner paper elements as required using the procedures referred to in the engine maintenance brochure.
5. Check that the cylinder is correctly adjusted to cut, by testing with paper or grass. Loosen the locking nuts on the cylinder adjuster rods and then turn the adjustment nuts a small even amount on each side till the required cut is achieved. Resecure the locking nuts. (see Fig.2)
6. Grease the nipples on the cutting cylinder (see Fig.2) and drive shaft, oil the chains and both clutch holes (see Fig.3).

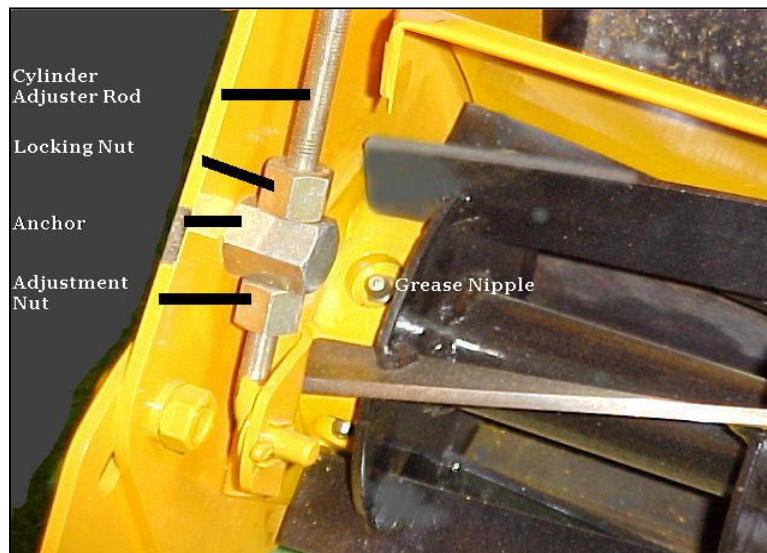


FIG2. CYLINDER GREASE NIPPLES & ADJUSTERS

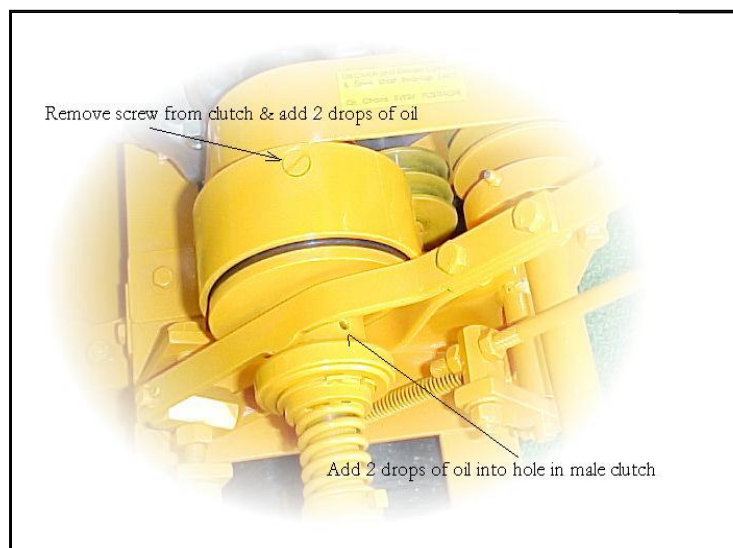


FIG 3. CLUTCH LUBRICATION POINTS

Starting the Engine:

- Turn the fuel tap, situated on the side of the carburettor, to the ON position.
- Move the grey choke lever, situated on the side of the carburettor, to the choke position.
- Check that the cylinder and drive clutch levers are in the **disengaged** position.
- Move the on/off switch, situated on the mower crossrail, to the ON position.
- Pull the starter rope lightly until you feel resistance then return the cord prior to pulling the motor over firmly and briskly. Do not allow the rope to snap back; return it by hand to prevent damage to the starter.
- Increase the throttle setting and remove the choke lever setting.

Stopping the Engine:

- Move the throttle to the idle position
- Turn the engine switch to the off position
- Turn the fuel tap to the off position when storing the mower at the end of the day.

Transporting the mower:

Hooks have been provided in the upper section of the mower handles for the catcher to be stored in an upturned position over the engine. This minimises the storage space required for the mower and provides protection for both the catcher and mower.

The drive clutch lever should be engaged to minimise free movement of the mower when transporting the mower and the handles should be securely lashed to prevent the mower falling backwards from acceleration. If the mower falls or is placed on its back, the engine oil will run into the carburettor, exhaust and cylinder. (The motor will require stripping down before it can be restarted!)

Cleaning the mower:

Do not hose the engine or the mower after use. Water, under pressure, will reduce the life of the mower bearings, adversely affect the smooth operation of the cylinder clutch and split rear roller mechanisms. Neither is it recommended by the engine manufacturer.

Grass clippings can be readily removed with a blower or compressed air and the paintwork can be wiped over if required.

Operating the Mower:

The drive clutch lever can be used in a similar manner to a car clutch. Fully released, the forward drive is immediately engaged or the lever can be eased in, on a more gradual basis, to allow the mower to be edged forward. This level of control is particularly useful when turning or manoeuvring the mower in difficult areas.

FRONT ROLLER CAM HEIGHT ADJUSTERS

The two cams fitted to the front roller of M.E.Y mowers enable the operator to quickly change the cutting height to suit varied conditions and requirements. See Fig 4

Loosen one front roller end bolt at a time, with the special spanner provided. By rotating the cam through 90°, the cutting height changes by 2mm. A further 90° rotation drops the cutting height by 2mm again. Secure that end bolt and repeat the process on the other end ensuring that the changes are identical. An example: Top setting of 12mm changes to 10mm and then 8mm - a range of 4mm. The front roller end bolts must be re-secured before mowing.

This system can also be used to obtain micro adjustment as required on bowling green, tennis court and cricket wicket mowers. In this application 5° is equal to approximately 0.1mm.

FIG.4 CAM HEIGHT ADJUSTMENT



TO REMOVE THE BLADE HOLDER

Turn off the petrol and turn the engine to Top Dead Centre.

Lay mower back so handles rest on a 20 Litre drum or catcher.

Remove the chain case by undoing the wing nuts.

Loosen the cylinder adjuster bolts to remove any residual blade tension.

Loosen the 3 bolts on each end of the bottom blade holder (sole plate), then continue to remove the six bolts. The bottom blade and holder can then be dropped out of the mower frame.

The blade should be left on the holder for sharpening and is only removed for replacement. The blade should be professionally sharpened and checked for trueness.

Refit the bottom blade & holder and fit all the bolts loosely, then tension them fully.

Adjust cylinder down to the blade so as to cut paper.

Check that the setting is at the required cutting height and level.

Check chain case seal, refit chain case and right mower.

CUTTING CYLINDER

Frequent fine adjustment of the cylinder to the bottom blade will give the best cutting performance and extend the period between sharpening. The design of the cylinder enables the trailing edge to be sharpened while the machine is in operation. It is recommended to reverse the cylinder at regular intervals (eg each time the bottom blade is sharpened) in order to maintain a good cut. When a new bottom blade is fitted the cylinder should be cylindrically ground and bearings checked to maintain trueness.

TO REMOVE CUTTING CYLINDER

Remove blade sole plate, then sharpen and straighten bottom blade.

Remove cylinder chain by undoing the chain joining link.

Remove cylinder sprocket boss (NOTE: left-hand thread).

Loosen nuts on cylinder adjuster rods.

Remove bolts from the two adjuster rod anchors.

Remove the four bolts securing the two bearing housings.

Pull out the cylinder through the bottom of the mower.

Check bearings and grease nipples.

Clean the side plates to avoid dirt entering the bearing housings.

Reverse cylinder so that the sharp trailing edge is at the front.

Ease the cylinder back into position by lifting with the adjuster rods.

DO NOT OVERTIGHTEN the cylinder bearing housing bolts. (Just nip up)

Refit sole plate and ensure that these bolts are tight.

Adjust cylinder down evenly to the blade so as to cut paper.

Do not overtighten cylinder onto bottom blade as this causes excessive wear to cutting edge. Grease bearings and right mower.

Refit cylinder sprocket boss, chain and chain case. Ensure that the chain joiner is secured with the closed end facing the drive direction.

TO REMOVE THE BACK ROLLER

Turn off the petrol, turn the engine to Top Dead Centre & remove chaincase.

Remove cover plate over the slotted side plate, behind the 35 tooth sprocket.

Remove the four bearing housing bolts.

Drop the back roller from chassis by lifting the mower handles.

Service bearings and roller as found necessary.

Note that the 35 tooth sprocket is secured with a left hand thread.

Refit roller by lifting the mower and secure with the bearing bolts.

Refit chain and adjust the chain tension by using the nut on back of 52 tooth idler sprocket. Be sure to avoid overtightening the chains and test this over a full rotation of all the sprockets.

Oil Chains.

Refit chain case and seal.

Re-align Mower (see setting up).

TO REMOVE THE FRONT ROLLER

Turn off the petrol and turn the engine to Top Dead Centre

Lay back mower on 20 litre drum or catcher.

Remove the bolts at each end of the front roller shaft.

Repair as found necessary and refit.

Note, the two bearings are secured with circlips behind the end seals.

Align Mower (see set up).

MOWER MAINTENANCE

Daily Checks

Check oil level in engine.

Oil Clutch - both holes

Grease cylinder and drive shaft bearings

Check cylinder and bottom blade cut (adjust if necessary).

Every 40 - 50 HOURS.

Remove bottom blade holder and sharpen blade.

Check for trueness and replace when necessary.

Reverse cutting cylinder.

Check cutting height.

Check for parallel cut and adjust if necessary. (See setting up)

Check and adjust chain tension and re-oil chain (chain lube)

Clean air filter as per Motor Service Handbook.

80 - 100 HOURS

Change motor oil as per manufacturer's manual.

Check bearings and grease nipples.

Lubricate throttle inner cable with CRC or similar.

150 - 200 HOURS

Check front and back roller bearings.

Check clutch lever adjustment (3-5mm space from end of clutch gate when engaged). Adjustment bolts are provided at bottom of rod.

Clean fuel bowl or filter if fitted.

NOTE: - Split rear rollers should be serviced every 12~18 Months.

SPARES TO CARRY

Engine spark plug and air filter

Spare cylinder chain, joining link and tensioner spring.

OPTIONAL SPARES

A complete Bottom Blade and Holder so that the one in use can be replaced for regrounding without losing operating time.

Height Gauge for accurate setting of the cutting height.